

CLAIMS

1. A primer which amplifies the base sequence of a target region selected from any portion of the nucleic acid sequence from base 81 to base 934 of the 16S rDNA of an *Alicyclobacillus* spp., or its complementary strand, the primer being characterized by comprising:

5 (a) a base sequence which functions as a primer by annealing to 16S rDNA of the *Alicyclobacillus* spp., as the first segment, and

10 (b) a base sequence located at the 5' end of the first segment which is complementary to the nucleic acid sequence at the 3' end of the first segment, as the second segment.

2. A primer set for detection of an *Alicyclobacillus* spp., which comprises an oligonucleotide set consisting of the nucleic acid sequences set forth in SEQ ID NOS: 1 to 4 and is capable of amplifying a specific region of 16S rDNA of the *Alicyclobacillus* spp..

15 3. A primer set for detection of *Alicyclobacillus acidoterrestris*, which comprises an oligonucleotide set consisting of the nucleic acid sequences set forth in SEQ ID NOS: 5 to 8 and is capable of amplifying a specific region of 16S rDNA of *Alicyclobacillus acidoterrestris*.

20 4. A primer set for detection of *Alicyclobacillus acidoterrestris*, which comprises an oligonucleotide set consisting of the nucleic acid sequences set forth in SEQ ID NOS: 9 to 13 and is capable of amplifying a specific region of 16S rDNA of *Alicyclobacillus acidoterrestris*.

25 5. A method for detection of an *Alicyclobacillus* spp. present in a specimen, characterized by using a specific region of 16S rDNA of the

Alicyclobacillus spp. as a target, selectively amplifying the specific region of 16S rDNA by the LAMP method using a primer according to claim 1, and confirming the presence or absence of the amplified product.

5 6. A method for detection of an *Alicyclobacillus* spp. present in a specimen, characterized by using a specific region of 16S rDNA of the *Alicyclobacillus* spp. as a target, selectively amplifying the specific region of 16S rDNA by the LAMP method using a primer set according to claim 2, and confirming the presence or absence of the 10 amplified product.

15 7. A method for detection of *Alicyclobacillus acidoterrestris* present in a specimen, characterized by using a specific region of 16S rDNA of *Alicyclobacillus acidoterrestris* as a target, selectively amplifying the specific region of 16S rDNA by the LAMP method using a primer set according to claim 3, and confirming the presence or absence of the amplified product.

20 8. A method for detection of *Alicyclobacillus acidoterrestris* present in a specimen, characterized by using a specific region of 16S rDNA of *Alicyclobacillus acidoterrestris* as a target, selectively amplifying the specific region of 16S rDNA by the LAMP method using a primer set according to claim 4, and confirming the presence or absence of the amplified product.

25 9. A method for identification of an *Alicyclobacillus* spp., characterized by carrying out enrichment cultivation of a specimen, separating a DNA sample from the appearing bacteria, subjecting the DNA sample to amplification reaction by the LAMP method using a

primer according to claim 1, amplifying the specific region of 16S rDNA of the *Alicyclobacillus* spp., and confirming the presence or absence of the amplified product.

10. A method for identification of an *Alicyclobacillus* spp., characterized by carrying out enrichment cultivation of a specimen, separating a DNA sample from the appearing bacteria, subjecting the DNA sample to amplification reaction by the LAMP method using a primer set according to claim 2, amplifying the specific region of 16S rDNA of the *Alicyclobacillus* spp., and confirming the presence or absence of the amplified product.

15. A method for identification of *Alicyclobacillus acidoterrestris*, characterized by carrying out enrichment cultivation of a specimen, separating a DNA sample from the appearing bacteria, subjecting the DNA sample to amplification reaction by the LAMP method using a primer set according to claim 3, amplifying the specific region of 16S rDNA of *Alicyclobacillus acidoterrestris*, and confirming the presence or absence of the amplified product.

20. A method for identification of *Alicyclobacillus acidoterrestris*, characterized by carrying out enrichment cultivation of a specimen, separating a DNA sample from the appearing bacteria, subjecting the DNA sample to amplification reaction by the LAMP method using a primer set according to claim 4, amplifying the specific region of 16S rDNA of *Alicyclobacillus acidoterrestris*, and confirming the presence or absence of the amplified product.

25. A kit for detection of an *Alicyclobacillus* spp. or *Alicyclobacillus acidoterrestris*, characterized by comprising at least a

primer or a primer set according to any one of claims 1 to 4, strand-displacing DNA polymerase, dNTPs and reaction buffer.